Secrets. II-37—100,000—31-5-43.

S & P. H. (195) Department.

SERIES.

G.O. No. 8183 P.H.

Dated 17-8-1943.

[Despatch Abstract.]

SANITARY INSPECTORS COURSE - Revision of syllabus and courses of Instruction - Amendment to the rules - Issued.

GOVERNMENT OF MADRAS.

Abstract.

SANITARY INSPECTORS COURSE - Revision of syllabus and courses of instruction - Amendments to the rules - Issued.

(E.2)

EDUCATION & PUBLIC HEALTH DEPARTMENT.

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G.O.Ms.No.3183 P.H. Dated the 17th September 1948.

Read: From the Director of Public Health, R.No.26296-E1-47, dated 23-4-1948.
From the Surgeon General, U.O.R.No.38503-M1/48, dated 14-5-1948.
From the Director of Public Health, R.No.26296-3 E1-48, dated 13-8-1948.
Read: Government Memorandum No.30983-48-2 E2, P.H., dated 26-5-1948.
Read again: G.O.No.851, P.H., dated 20-4-1933.
G.O.No.3091, P.H., dated 6-11-1944.
G.O.No.2273, P.H., dated 31-7-1946.
G.O.No.1871, P.H., datdd 8--6-1948.

ORDER:

In the Memorandum read above, the Government approved the revised syllabus and courses of instruction for the Sanitary Inspector's certificate examination, as approved by the Board of Examiners and the Director of Public Health was asked to submit the necessary draft amendments to the existing rules governing the examination. The Director of Public Health has now submitted the draft amendments.

2. The following amendments to the rules issued with G.O.No.851 P.H., dated 20th April 1933 as subsequently amended will be made:

AMENDMENT NO.1.

In rule 2 of the said rules, the sub para 3 "Applications for admission ..... Guindy" shall be deleted.

AMENDMENT NO.2.

For the existing rule 3 of the said rules the following shall be substituted.

"3. The College fee prescribed for the course of training is Rs.120. Selected candidates should pay the college fees into the Government treasury to the credit of "XXII Medical - a Madras Medical College - Sanitary Inspector's class fees" and send the receipt to the Principal, Medical College, before the 1st of July".

NOTE:-

The increased rate of fee of Rs.120 has been incorporated with reference to the orders in G.O.No.Ms.1871 P.H dated 5-6-1948.

AMENDMENT NO.3.

For the existing rule 7 of the said rules the following shall be substituted.

P.T.O.

"7. The course of training for the award of Sanitary Inspector's diploma shall consist of two parts comprising of theoritical and practical training according to the prescribed syllabus in the subjects as shown below.

PART I.

Subject.	Hours.
1. Elementary and applied Physiology.	50
2. Elementary Bacteriology and Parasitology.	20

PART II.

1. Sanitation and Hygiene	100 (It should be a convention that atleast 50 hours should be set apart for lectures by the Sanitary Engineering Instructor)
2. Preventive Medicine including vaccination.	40
3. Vital Statistics	10
4. Public Health administration.	30
5. First Aid	20
6. Practical field training in Public Health	4 months.

The theoretical instruction shall be given in the Madras Medical College during the period July to March, the practical training in Vaccination in the months of January and February in Madras City and the Practical field training in Public Health in the months of April and May in the areas prescribed for the purpose according to the prescribed syllabus.

AMENDMENT NO.4.

For the existing rule 8 of the said rules the following shall be substituted

"8. Candidates who have satisfactorily completed the course of instruction shall be required to undergo an examination in the subjects of the Course conducted by a Board of which the Director of Public Health shall be the Chairman. The examination shall be conducted in two parts and shall be held twice a year Part I begin on the 15th day of December and 15th day of April and Part II beginning on the 4th Monday in June and 1st Monday January respectively.

The examination in Part I shall consist of a written paper of three hours duration and an oral examination in each subject. The distribution of marks and the minimum required for a pass shall be as follows.

PART I

Subject	Maximum.	Minimum.
Elementary and applied Physiology.		
Writ ..	100	
Oral ..	50	
Total ..	150	75

Elementary Bacteriology and Parasitology.

Written ...	100	
Oral ...	50	
Total ...	150	

Candidates shall take the examination in both the subjects in Part I at the first sitting. No candidate shall be admitted to Part II of the examination unless he has passed Part I of the examination.

The examination in Part II shall consist of a written paper of three hours duration in each subject, a practical examination in sanitation and Hygiene and an oral examination in each subject and shall include evaluation of the records of practical training.

The distribution of marks and the minimum required for a pass shall be as follows:

PART II

Subject	Maximum.	
1. Sanitation and Hygiene		
Written ..	100	
Practical (Special Report).	50	
Oral	50	
Total...	200	100
2. Preventive Medicine including Vaccination and First Aid.		
Written ...	100	
Oral	50	
Total...	150	75
3. Public Health Administration including Vital Statistics (Written) ...	100	
Records of Practical training.	50	
Oral ...	50	
Total.	200	100

Candidates shall take the examination in all the subjects in Part II at the first sitting.

Candidates who pass both parts of the examination at the first sitting and who obtain not less than two thirds of the aggregate marks of both parts together shall be declared to have passed in the first class and candidates who obtain not less than 75% of the marks in any subject shall be declared to have passed in that subject with distinction. Candidates obtaining less than two thirds of aggregate but not less than 50% in each subject in parts I and II shall be declared to have passed the examination in the second class. All other candidates shall be deemed to have failed.

AMENDMENT NO.5.

For the existing rule 9 of the said rules the following shall be substituted.

P.T.O.

"9. The examination fee is Rs.20/- for the whole examination and Rs.10/- for each subject in Part I and Rs.30/- for the whole examination and Rs.10/- for each subject in Part II."

AMENDMENT NO.6

For the words "Sanitary Inspectors" occurring in the first sentence in rule 10 of the said rules "qualified Sanitary Inspectors" shall be substituted.

AMENDMENT NO.7.

Rule 12 of the said rules shall be deleted.

AMENDMENT NO.8.

Rule 13 of the said rules shall be renumbered as rule 12 and the following "and whose name does not appear in the half yearly list of Sanitary Inspectors which is published under the authority of Government" occurring in the same rule shall be deleted.

The following shall be added as sub para under the above rule.

"The following is the copy of the Sanitary Inspector's Certificate.

Crest - on the obverse of the certificate.

GOVERNMENT OF MADRAS.

Sanitary Inspector's Certificate.

This is to certify that . . . . . has satisfactorily completed the courses of the theoritical and practical training and has passed Part I and Part II of the examinations prescribed for the Sanitary Inspector's course in the . . . . . class.

He has gained distriction in

Chairman,
Board of Examiners.

Marks of identification.

1.

2.

Signature of candidate.

Signature...

Designation.....
of the Officer recording the marks of identification).

AMENDMENT NO.9.

Rule 14 of the said rules shall be deleted.

AMENDMENT NO.10.

For the existing syllabus the following shall be substituted.

SYLLABUS OF TRAINING

Candidates for the qualification of Sanitary Inspector shall undergo a course of study as shown below:

PART I.

1. Elementary and applied Physiology (50 hours).

The elementary principles of Physiology according to the following syllabus:-

Introduction:- Scope and aims of Physiology, genera structure of the body; general survey of the human skeletc and the joints, brief descriptions of the structure and functions of the varieties of muscle: structure and functions of nerve fibres.

BLOOD:-

Description of the formed elements and their functions; clotting of blood; composition of Plasma.

CIRCULATION:

Structure of the heart; heart beat; cardiac impulse; sounds of the heart; course of the general circulation of blood; structure of the blood vessels; blood pressure; Pulse; velocity of blood; nervous control of the heart and blood vessels; lymph and its circulation.

RESPIRATION:

Structure of the trachea and lungs; respiratory movements; quantity of air respired; exchange of gasses in lungs and tissues; regulation of respiration; asphyxia.

DIGESTION AND ABSORPTION OF FOOD.

Foodstuffs; structure of the different parts of the alimentary canal; glands and secretions; the digestive juices, their composition and action; structure and functions of the liver; absorption of food. An elementary knowledge of metabolism and diet.

Structure and functions of the spleen.

EXCRETION:-

Structure of the kidney; composition and formation of urine; structure and functions of the skin.

ANIMAL HEAT:-

Temperature of the body; loss of heat; source of heat; distribution of heat; regulation of heat.

NERVOUS SYSTEM:-

Afferent and efferent nerves; structure and functions of the spinal cord; and medulla; structure and functions of the cerebrum; structure and functions of the cerebellum.

SPECIAL SENSES:-

A very elementary knowledge of the special organs.

INTERNAL SECRETIONS:

An elementary knowledge of the more important internal secretions.

2) Elementary bacteriology and Parasitology (20 hours)

ELEMENTARY BACTERIOLOGY.

i) Micro-organisms - their structure - identification - staining - spore formation - motility - reproduction - growth - Culture media - aerobes and anaerobes.

ii) Disease producing organisms - Pathogenicity and virulence - infection - results of - incubation - infectivity. Sources of infection - mode of spread and channels of infection in communicable diseases.

iii) Immunity - Rationale of immunological processes in the body - Artificial immunity - active and passive - immunity tests - Vaccines and sera - their varieties and uses in Public Health work.

Preparation of vaccines and sera with special reference to Vaccine lymph, Cholera vaccine, Plague Vaccine, Typhoid vaccine and Rabies vaccine - Bacteriophage.

iv) Microorganisms in relation to human environment - soil Bacteria - Nitrogen cycle - Water and its purification - Sewage purification - Pastemisation - Food preservation - Food poisoning - Bacteria in air - air sterilization.

v) Isolation of micro organisms - methods - Collection of specimens for examination in cholera, Typhoid, Dysentry, Malaria, Plague, Diphtheria, collection of water milk and food samples for Bacteriological examination.

vi) Micro organisms - destruction of - effect of environment, moisture, food, temperature air etc.

Disinfection, sterilisation, antisepsis.

ELEMENTARY PARASITOLOGY.

Nature of Parasites - ecto and endo.
Parasites of importance in Public Health.
Protozoa - Malarial Parasite - Amoeba.

Metazoa - worms common cestodes, Nematodes, and Trematodes - their life cycle and modes of spread.

INSECTS:-

Cyclops, Acarine, Ticks, lice, fleas, fli and mosquitoes.

Life history of important insects and their relation to diseases.

Insect control measures - Fumigation, D.D.T. etc.

PART II.

1. SANITATION AND HYGIENE. (150 hours)

i) INTRODUCTION:-

Scope of Public Health - Hygiene and Sanitation - Modern Public Health practice - The Health Officer and his subordinates - The Sanitary Engineer and his subordinates.

ii) GENERAL ENGINEERING:-

Basic elementary principles of surveying - levelling, drawing, estimating and of the general nature of building materials and building construction.

... iii) WATER:-

Purposes of requirements.

Sources of supply - their characteristics - Lakes, tanks, wells, shallow and deep, springs, Tube wells - bore-wells.

Conservation of sources.

Collection, storage and distribution - general principles.

Impurities in water.

Physical, chemical, bacterial, parasitic.

Effects on health - diseases conveyed by water. Collection and examination of water samples and interpretation of results.

Purification of water - Filtration and infiltration gallery Chemical and Physical methods - softening.

iv) AIR AND VENTILATION.

Air - Composition of - importance to Health pollution of air, sources of.

Impurities in air and their effect on health.

Physiological basis of ventilation - effect on health of humidity, temperature, altitude and pressure conditions.

Standards of ventilation - their significance and application - Methods of ventilation - air conditioning.

Examination of ventilation of buildings - Katathermometer Cooling and heating.

v) CLEANSING:

Wastes - different kinds of - sources - quantities - Rubbish - Collection - dust bins - Removal - Rubbish carts - Patterns - Lorries.

Disposal methods - sea - controlled dumping.

Incineration - Manure pits.

Personal and organisation.

Excreta:- Collection - Latrines - different types removal - implements - carts - disposal methods - Trenching, Composting, incineration, septic tanks - Pail depots.

Personal and organisation.

Liquid filth:-

Collection - Cesspools - Removal - Sewage carts - Open drains - Disposal - Leaching cess pool - soak pit - land irrigation - dilution.

Sewage - Sewage system.

Plumbing and house fittings - trap etc.

Sewers - Ventilation and cleansing.

Disposal methods of sewage and trade wastes, Dilution, land disposal, artificial biological methods.

Cleansing and its bearing on health - Soil pollution.

vi) DISPOSAL OF THE DEAD:-

Various methods of disposal - advantageous and disadvantageous.

Sites and soils for burning and burial grounds.

Disposal of carcasses.

vii) NUTRITION.

Food - functions of - Proximate principles - their role in nutrition - Nutritive value of the common food articles - diets - balanced diet - digestibility - effects of cooking.

Food and health - diseases due to food - Excess - dificency - dificiency diseases - infectious diseases - food poisoning - Parasitic diseases.

Nutrition and diet surveys.

Preservation and processing of foods - Pasteurisation, Refrigeration, Canning etc. - Food sanitation - Dairy farms, slaughter houses, markets, eating houses, hotels, restaurants, bakeries, aerated water factories,,sweet shops etc.

Examination of food articles.

(vii) PERSONAL HYGIENE:-

Habits and customs - their relation to health - cleanliness - Clothing.

Exercise - sleep - care of special organs.

Public baths - Swimming pool sanitation - Parks and play grounds.

(ix) CAMP SANITATION:

Fairs and Festivals - Labour Camps - Other temporary congregations - Need for adequate Public Health arrangements.

Infectious diseases - modes of spread in congregations - detection, isolation, disinfection, immunoprophylaxis.

Lay out - accommodation - water supply - sanitary conveniences - Waste collection and disposal - control of food-establishments - lighting - control of animals.

(x) HOUSING.

Soils - their suitability and healthiness for various purposes.

Sites - for different purposes.

Sanitary requirements of buildings in general and special requirements of.

1) Residence (2) Schools (3) Industrial buildings (4) Public halls and places of Public entertainment and special buildings connected with food trade.

Scrutiny of plans - building regulations - application of village and town planning and extensions - Civic surveys.

Soils and buildings in relation to health.

11) INDUSTRIES AND TRADES:-

SANITATION of industries , location, ventilation, water supply, sanitary conveniences - lighting etc.

Measures for the abatement of nuisance, dust, smoke, fumes, safety measures etc.

Occupational diseases and their control.

Effects of trades and industries on health.

xii) ENGINEERING IN RELATION TO DISEASE CONTROL:-

Rodent control - Rat elimination and destruction - fumigation - Rat proof construction.

Fly control - anti-fly measures - Destruction of flies fly traps, poisons - prevention of breeding - manure - Collection and storage - protection of food from flies.

Mosquito control - life history and habits of mosquitoes Malaria surveys - Recurrent, Naturalistic and permanent methods of controlling larva and adult mosquitoes - Design of antimalaria drains in various circumstances - Canalisation - flushing - River training - Cleaning - Sub soil drainage - filling - adult spray killing methods - preparation of larvicides and insecticides - screening of houses - relation between Engineering, irrigation and Malaria - Malaria control for engineering projects, etc.

Filarial surveys - drainage in relation to Filariasis Aedes control.

xiii) Intramural demonstrations and extra-mural excursions to supplement and illustrate the above theoritical courses will be arranged as and when necessary.

2. PREVENTIVE MEDICINE INCLUDING VACCINATION (40 hours).

1) Communicable diseases - general principles - disease agents.

Sources of infection - Carriers - Contacts, missed cases.

Modes of transmission and channels of infection.

Incubation and infectivity periods

Epidemics, endemics, Pandemics.

Preventive measures in general.

Notification, investigation, isolation, quarantine, disinfection, concurrent and terminal details of various methods - disinfectants and their values - practical methods of disinfection and application of field works - disinfections - immunoprophylaxis.

Management of an epidemic campaign.

2) Special features of spread and control of common communicable diseases.

(a) Diseases transmitted by Ingestion.

Cholera, Typhoid, Dysenteries (Bacillary and Amoebic) Brucellesis, Helminthic infections - food poisoning.

(b) Diseases transmitted through inhalation.

Smallpox, chickenpox, Measles, Diphtheria, Mumps, Septic sore throat, Tuberculosis, whooping cough, Influenza, Pneumonia, Meningitis, Poliomoelitis, Encephalities.

(c) Insect borne diseases.

Malaria, Filaria, Yellow-fever, Dengue, Relapsing fever, typhus.

Plague - Rat bite fever.

Guineaworm.

(d) Animal diseases
Anthrax, Rabies.

(e) Diseases transmitted through contact

Leprosy, symphillis, gonorrhoea, scabies.

3) VITAL STATISTICS (10 hours)

Importance and use of Vital Statistics.

Registration - objects - machinery - errors - Checking.

Notification - records - uses of.

Population census, estimates of population.

Rates - Birth, Death, infantile mortality, maternal mortality and morbidity rates - significance.

4) Public Health Administration (30 hours)

Public Health - Provincial - The Ministry of health - The Director of Public Health and his staff - The Surgeon General - The Public Health and Medical Departments - Relationship between the two - relation to other departments Revenue, Agriculture, Veterinary, Engineering, Education etc.

Responsibility of the state and various local bodies in the matter of Public Health.

Local bodies - District Boards - Municipalities - Panchayats - their responsibilities - Financial obligation - Public Health staff in these areas, their duties.

Health education - difference methods of values.

Dominion responsibility in Public Health - Port quarantine.

2) Health Un...

3) Public Health Administration - details - duties and powers, authority for such powers, laws, rules and by-laws, and procedure in respect of

Water supply.
Food control (including adulteration)

Housing (Buildings; construction, Town planning. cinemas. tenement lodging houses, over crowding) cleansing

Epidemic control (Vaccination)

Camp sanitation (Fairs and Festivals)

4) Maternity and child welfare

Infantile and maternal morbidity and mortality - causes and their significance.

Maternity and child Welfare schemes - Organisation.

Personal duties - Prenatal, Intranatal, Postnatal and preschool work.

5) School health services - School of Hygiene - midday meals - play grounds - health education of pupils.

6) Industrial Hygiene - Industrial area - Residential area - licensable trades - Factories - Mines.

7) Office routine:

Common special Registers and records.

5) FIRST AID (20 hours).

A course of simple instruction and practical training in connection with common accidents, injuries and emergencies, such hoemorrage, Fractures of bones, dislocation of joints, loss of consciousness, asplyxiation, poisoning bites or stings of enomous animals and insects and a short course in basic principles of home nursing and treatment of communicable diseases, and minor ilments.

6) PRACTICAL FIELD TRAINING IN PUBLIC HEALTH.

This training is designed to give the candidate actual practical experience in the field of all health activities, comprised in the five subjects in part II of the curriculam.

The first portion covers practical training in Vaccination in the City of Madras for a period of two months in January and February. During this period each candidate will be required to perform at least 100 vaccine operations, verify the results of the cases vaccinated by him and make himself conversant with the records and procedure relating to Vaccination, under the supervision of the Health Officer, Corporation of Madras or an Officer designated by him. At the end of the training each candidate shall obtain a certificate in the form appended below from the Health Officer and produce the same before the Professor of Hygiene, Medical College, Madras.

CERTIFICATE OF PRACTICAL TRAINING IN VACCINATION.

This is to certify that . . . . . has satisfactorily undergone the practical training in vaccination as prescribed and has made himself conversant with the technique and procedure

Duration of training - January and February 19.

Number of Primary vaccination performed by the candidate

Number of re-vaccinations performed by the candidate

Number of vaccine operations verified by the candidate ..

Countersigned.

Signature.

Designation.

Health Officer,
Corporation of Madras.

The second portion of the practical field training in Public Health shall extend over a period of two months from 1st April to 31st May consisting of 15 days under the Health Officer, Corporation of Madras, 15 days under the Health Officer, Health Unit, Poonamallee 15 days under the District Health Officer, ~~Chingleput~~ Chingleput and 15 days under the Health Officer of a District Municipality.

The training in each of these areas shall include

(a) Lectures by the Health Officer concerned on the Public Health administration and practice in that local area.

(b) Demonstrations of common amenities and services like, water supplies, water sampling, milk, distribution, midday meals in institutions, housing schemes, labour colonies, industries, Maternity and Child Welfare centres, Markets, Slaughter houses, public sanitary conveniences, waste disposal, compost making, Manure pits, Infectious diseases control, Tuberculosis Clinics, Leprosy clinics, fumigation, Beggar homes and any other item of local Public Health interest

and (c) Assignments and exercises to the candidate as detailed below:-

CITY OF MADRAS.

1) Registration of Vital Statistics at the Registrar's Office detection of events - preparation of returns.

2) House inspections.

3) Inspection and report on fitness for certificates under section 26, 33, 38 of the Public Health Act.

4) Tenement inspection and report.

5) Lodging house inspection and report.

6) School sanitation - inspection and report.

7) Inspection and report on a cinema or any other place of public entertainment.

8) Food sampling.

9) Inspection and report on two places connected with trade.

10) Nuisance complaint - Inspection and report.

11) Report on fitness for licensing under the City Municipal Act sections 279, 280. 282. 285(c) 287, 288, 289, and 304.

P.T.O.

12) Inspection and report on the collection and disposal of waste in the specified area.

13) Report on the Public Sanitary conveniences in an area.

14) Concurrent and terminal disinfection in at least 2 cases of infectious diseases.

Preventive inoculation.

DISTRICT MUNICIPALITY.

1) Registration of Vital Statistics at a Registrar's office, Detection of events - Preparation of returns.

2) Collection of water samples.

3) Buildings - application - inspection and report.

4) Building - inspection after completion and report.

5) Inspection and report on places with reference to [illegible], 33, and 103 of the Public Health Act.

6) Housing inspections ~~and report~~.

7) Tenement - Inspection and repor

8) Lodging house - inspection and report.

9) Inspection and report on 2 places connected with food trade.

10) Cattle and cow sheds - inspection and report.

11) Inspection and report on a cinema or a place of public entertainment.

12) Inspection and report on fitness for licensing under District Municipalities Act. Section 245, 249, 250, 258, 262, 269, and 270(e).

13) Concurrent and terminal disinfection in 2 cases of infectious diseases.

Preventive inoculatio

14) Routine work records and procedure relating to vaccination.

15) Court procedure.

POONAMAL[illegible].

1) Vital Statistics - Registration in a village, Births, deaths, detections - enquiry into the causes of death.

2) Vaccination - unprotected children and unprotected persons registers - Verification of vaccinated cases.

3) Use of Homocks apparatus and chlorination of two wells.

4) Inspection of a water supply in a village and report.

5) Inspection of sanitary conveniences in a village and report

6) Mosquito prevalence - inspection and report - Collection of mosquitoes, adults and larva - anti mosquito measures.

7) Disinfection - Concurrent and terminal inoculation - Cholera taking of culture.

8) Rat dissection - taking a spleen smear

9) Fairs and festivals or camps if any inspection and rep

10) House inspection of 4 houses.

11) One day with the Sanitary Inspector of the Poonamallee Panchayat in his routine duties - Sanitary Inspector's office records.

12) Inspection and report on burial grounds in a village - selection of sites for new burial grounds.

13) One day with the Health Inspector of the Health Unit for routine work.

CHINGLEPUT DISTRICT RURAL AREA.

1) Vital Statistics - Registration in a village - Births, deaths, detections - enquiry into the causes of death.

2) Inspection of a village water supply and report - selection of sites for wells in village and report.

3) Horrocks apparatus - use of - the chlorination of two wells.

4) Inspection of waste collection, removal and disposal in a village.

5) Inspection of sanitary conveniences in a village and report. Selection of sites for sanitary conveniences in a village and report.

6) Fairs and festivals or camps if any - inspection and report.

7) One day with the Health Inspector in his routine outdoor work - Health Inspector's office routine and records.

3. As the Sanitary Inspectors Class for 1948-49 has already commenced, the above amendments will take effect from 1st July 1949.

BY ORDER OF THE GOVERNOR OF MADRAS.

SD/- x x x
SECRETARY TO GOVERNMENT.

To the Director of Public Health.
To the Surgeon General.
To the Principal, Madras Medical College, through Surgeon General.

(True c...

KRVD.19.6.

Superintendent,
MADRAS RECORD OFFICE.